



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF INFORMATICS AND INNOVATIVE SYSTEMS

UNIVERSITY EXAMINATION FOR THE DEGREE OF COMPUTER SECURITY AND

FORENSIC WITH IT

4TH YEAR 1ST SEMESTER 2022/ 2023 ACADEMIC YEAR

COURSE CODE: ITB 9403

COURSE TITLE: INTERNAL CONTROLS AND SECURITY ISSUES

EXAM VENUE: MAIN CAMPUS

DATE: STREAM:

TIME: 2 HOURS EXAM SESSION:

INSTRUCTIONS:

- 1. Answer question 1 in Section A (Compulsory) and any other two questions in Section B**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

QUESTION ONE (30 MARKS)

- a). Every system and process within a company exists for some specific business purpose. The management must look for the existence of risks to those purposes and then ensure that internal controls are in place to mitigate those risks. State and explain **THREE** types of internal controls depending on what they do. (6Mks)
- b). Define the following terms as used in Internal Controls and security issue (6Mks)
- i. Security Policy
 - ii. Risk
 - iii. Threat
- c). Most Organizations desire to hire competent managers who can maintain framework of good Internal control system. Explain the **FIVE** integrated components of Internal controls under the COSO framework (10Mks)
- d). Most Organizations invest much money in acquiring computer hardware and software. The area which has not been given much attention is control of computer crime. State what you understand by the term computer crime and list **FIVE** major types of computer crime (5Mks)
- f) What is the difference between compliance testing and substantive testing (3Mks)

QUESTION TWO (20 MARKS)

- a) An IT audit is crucial to any business because it provides knowledge that the IT systems are appropriately protected and managed to avoid any sort of breach. Outline all the five steps for performing an IT audit (5Mks)
- b). A secret pass-word known only to the user, allows an administrator to feel confident of that user's identity even though, users still make their password insecure. Explain four ways in which users make their password insecure (4Mks)
- c). Auditing information systems and safeguarding data quality is an important business process in modern organizations. Describe, with relevant examples, how Information System auditing enhances system security control process. (5Mks)
- d). An effective Risk management process is an important component of a successful IT security program. Briefly discuss **THREE** main objectives of conducting Risk management to an organization (6Mks)

QUESTION THREE (20 MARKS)

- a) The challenge for organizations is to determine the appropriate set of security controls, which if implemented and determined to be effective in their application would comply with the stated security requirements by mitigating the impact or likelihood of each identified threat. State **THREE** major factors that will influence the selection of safeguards and controls to an organization (6Mks)
- b) Constraints may arise during internal control implementation and may need to be resolved on a control by control basis. State and explain any **FIVE** of these constraints (5Mks)
- c) Define the following terms as used in Internal controls and security Issues (6Mks)
- i). Least privilege
 - ii). Segregation of duties
 - iii). Rotation of duties
- d). Internal control weaknesses are failures in the implementation or performance of internal controls. Even the strongest security measures can be circumvented if a malicious actor identifies an internal control weakness. State **THREE** Ways in which you can Identify and Fix Internal Control Weaknesses (3Mks)

QUESTION FOUR (20 MARKS)

- a). Businesses have an array of technologies for protecting their information resources. List **FOUR** tools for security management that organizations are using (8Mks)
- b) Your organization intends to employ an information security officer. Propose four skills required for this security positions. (4Mks)
- c). Explain two ways of protecting data and information against unauthorized access (4Mks)
- d). List four ethical behaviours that employees should adhere to when using information systems (4Mks)

QUESTION FIVE (20 MARKS)

- a) Assume that you are attached in a computer lab and one of the requirement is to make sure the computers have good security features, in view of this Explain how to come up with a strong password that people can use to secure the computers (6Mks)
- ii. Explain some of the practices that are ethically wrong when using computers (6Mks)
- b). Explain five actions that an auditor should take if the internal control system is found to be weak. (5Mks)
- c). Uncontrolled risk can severely handicap an organization and eventually results in its failure. State **THREE** consequences of uncontrolled risks. (3Mks)